Agenda

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2006 RF Sensing Symposium
August 1st – 3rd, 2006

Monday, July 31st

18:00 – 20:30	Reception, Registration, and Badging Bradbury Science Museum, Los Alamos, NM	Celine Apodaca

Tuesday, August 1st

Buses will pick up at hotels. Departures to the Symposium:

07:00	Best Western Hilltop House Hotel
07:10	Holiday Inn Express
07:20	Quality Inn

LOCATION: ***Metropolis Center***

07:30 – 08:30	Arrival, Registration, and Refreshments	Celine Apodaca
08:30 – 08:35	Symposium Welcome	Steve Knox
08:35 – 08:40	Administrative Remarks	Phil Jacobson

Session 1 Keynote & Threats (Chair: Steve Knox)

08:40 – 08:55	Los Alamos Welcome	Harald Dogliani
08:55 – 09:10	Welcome and NNSA Introduction	Dr. Jan Cerveny
09:10 – 10:00	Keynote Address	Dr. John Kriese
10:00 – 10:30	BREAK	
10:30 – 11:30	Threat Overview	L. Dudley Miller
11:30 – 13:00	LUNCH	

Session 2 High Power RF Collection (Chair: Dan Marti)

13:00 – 14:30	Jeff Hamilton, Michael Wiley, Jose Pina
14:30 – 15:00	BREAK
15:00 – 17:00	Vic Sulkowski, Kevin Parker, Mark Roberson
17:00 – 17:10	Concluding Remarks

Wednesday, August 2nd

Buses will pick up at hotels. Departures to the Symposium:

07:00	Best Western Hilltop House Hotel
07:10	Holiday Inn Express
07:20	Quality Inn

LOCATION: ***Metropolis Center***

07:30 – 07:50	Arrival, Registration, and Refreshments	Celine Apodaca
07:50 – 08:00	Administrative Remarks	Phil Jacobson

Session 3 Measurements and Signatures (Chair: Ron Olesch)

08:00 – 08:30	Imaging RF Emitters	Joseph Lazio
08:30 – 09:00	Exploitation of UREs	Eric Hildebrand
09:00 – 09:30	NSP RF Standards Status and Current Program Status	John Teeuw
09:30 – 10:00	Feasibility of Use of RF Emissions from Underground Facilities	William Wortman
10:00 – 10:30	BREAK	
10:30 – 11:00	Vehicle Signatures	John Swartz
11:00 – 11:30	RF Signatures	Bing Mak
11:30 – 12:00	Rapid Reaction Capabilities for RF Device Characterization	James Hendricks
12:00 – 12:30	Measurements of RF Emissions from Explosions	Robert Nemzek
12:30 – 13:30	LUNCH	

Session 4 Enabling Technology (Chair: Brad Kuhn)

13:30 – 14:00	NVIS Propagation	Jay Wilson
14:00 – 14:30	Tunable, High-Q HTS Filters for RF Receivers	Neal Fenzi
14:30 – 15:00	EdotX	Xuan-Min Shao
15:00 – 15:30	Synoptic RF Monitoring	John Mosher
15:30 – 16:00	BREAK	
16:00 – 16:30	Photonic Band Gap Spectrometer for mm-wave Remote Sensing	Lawrence Earley
16:30 – 17:00	Low SNR Signals Assessment	Tim Holzheimer
17:00 – 17:30	Acquisition, Classification, and Geolocation of RF Emissions	Scott Briles
17:30 – 17:40	Concluding Remarks	

Thursday, August 3rd

Buses will pick up at hotels. Departures to the Symposium:

07:00	Best Western Hilltop House Hotel
07:10	Holiday Inn Express
07:20	Quality Inn

NEW LOCATION: ***NISC Bldg. next to Metropolis Center***

07:30 – 08:15	Arrival, Registration, and Refreshments	Celine Apodaca
08:15 – 08:30	Administrative Remarks	Phil Jacobson

Session 5 Special Projects (SCI Level Session) (Chair: Jeff Hamilton)

08:30 – 12:00	Briefings
12:00 – 13:30	LUNCH – Otowi Cafeteria Side Room

Session 6 RF Working Group Meeting (SCI Level Session) (Chair: Jeff Hamilton)

13:30 – 17:00	RFWG Discussions

2006 RF SENSING SYMPOSIUM

Announcement and Call for Papers
(FINAL)

1-3 August 2006

HOSTED BY
LOS ALAMOS NATIONAL LABORATORY (LANL)

SPONSORED BY
MASINT COMMITTEE and
DEPARTMENT OF ENERGY

ORGANIZED BY:
LANL and the MASINT Committee RF WORKING GROUP

SYMPOSIUM INFORMATION

The 2006 Radio Frequency (RF) Sensing Symposium will be hosted by Los Alamos National Laboratory (LANL), in Los Alamos, NM. This symposium is sponsored by the MASINT Committee and the Department of Energy/NNSA, and organized in coordination with the MASCOM RF Working Group. The meeting this year will follow in similar fashion to previous symposia coordinated by DIA/DTT in 2003 and 2005.

The symposium will be held at LANL from 1-3 August 2006. Presentations will be held primarily at the collateral SECRET//NOFORN level with some sessions at the TOPSECRET//SI//TK level to be organized according to the submitted material received. --**Only US citizens may attend**

SYMPOSIUM VISION and OBJECTIVES

The 2006 RF Sensing Symposium vision is to strengthen national cooperative interactions between members of the intelligence, science and technology communities focused on MASINT, collections, processing and exploitation.

The overriding objective of the symposium is to provide the latest technical and tactical/strategic intelligence related to RF Sensing. This symposium is coordinated to highlight prototype detection and location systems, current and future R&D efforts, and to identify activities which transition technologies to operational application. Additional goals are to share the most current information among the RF community members in order to review RF requirements, the threat, and to present how today's capabilities in RF sensing are being used to support the intelligence community and support the warfighter. Of interest to the Symposium are advancements in science & technology that will accelerate the deployment of more capable RF systems, and rapidly leverage recent discoveries.

CALL FOR PAPERS

If you wish to make a presentation, typically 20 minutes in length, you must submit your **one-page abstract by 15 May 2006**. E-mail unclassified abstracts of less than 300 words, in Word document format with text only (no figures) to: capodaca@lanl.gov and cc: plj@lanl.gov. If your abstract is classified, send to Dr. Phillip Jacobson: lojacpl@lanlitp.ic.gov. SIPRNET submission can be arranged by calling one of the POCs. The MASCOM RF Working Group will review submissions and organize sessions. Authors will be notified of acceptance / rejection by 15 June, 2006 and a final agenda will be distributed by 1 July 2006.

Suggested topics for the symposium sessions include:

- Threat Briefings and User Requirements
- Phenomenology, Modeling, and Propagation Effects
- Hardware Advances: Operational Prototypes and Tests
- Characterization and Databasing of Signatures
- Enabling Technologies
- Current R&D Sensor Efforts
- Applications and Operational Results

SYMPOSIUM PROGRAM

The symposium is a forum established by a community interested in MASINT-related RF sensing. On **Monday, 31 July 2006**, symposium registration will begin at a reception to be held in Los Alamos, at the Bradbury Science Museum from 6:00 – 8:30 pm. Registration will also be available again each day of the symposium starting at 7:30 am. See the map below for highlighted locations – hotels, Museum, and Symposium location at the Nicholas Metropolis Center.
***CHECK-IN MONDAY EVENING IS STRONGLY ENCOURAGED, AS BADGING FOR LANL ACCESS WILL BE PROVIDED.*

The first session on **Tuesday, 1 August 2006,** will start at 0830 and include a keynote address, a threat briefing, organizational requirements and program briefs to give the S&T community insight into the current operational needs and desires of MASINT users. Continental breakfasts and lunches will be provided onsite, along with snacks during morning and afternoon breaks. The afternoon will include presentations and project briefings until 1700. Buses will return to the downtown Los Alamos area, near hotels, at 1730 each day.

The first two days, Tuesday and Wednesday, will be held at the SECRET//NOFORN level. The third day will require SCI access for the presentations and discussions.

GUIDELINES FOR PRESENTATIONS

Presentations will be limited to 20-30 minutes in length and should be in electronic format. Presentations should be submitted via JWICS, SIPRNET, or NIPRNET by 15 July. Topics for consideration include, but are not limited to: the status of your current programs, prototype or fielded sensors, enabling technologies, modeling of propagation effects, validation efforts and field testing results. We ask that you present an overview of your current efforts as well as addressing the questions listed below. These questions serve only as a general guideline and are not intended to be restrictive; additional information is welcomed.

1. Who are your customers? Who are your users?
2. What technologies are you using and where do you see your program going in the near term?
3. What is your current funding status and outlook? What are your projected deliverables [systems or study]?
4. What do you see as your most substantial technological limitations? What technological hurdles have you overcome? Which limitations do you plan to address in the future?
5. What are the emerging RF and enabling technologies in which you advocate research investment in order to be prepared for future requirements (2007-2012)?
6. Which operational and/or employment concepts are you addressing? What operational needs and customers are you supporting? To what extent can or will your technology transition to field use in the next 12/18/36 months? Project your per unit or per system cost for the user.

EXAMPLE FORMAT FOR SUBMISSION OF ABSTRACTS
FOR THE RF SENSING SYMPOSIUM
1-3 August 2006

Amanda C. Co-author, Chris A. Co-author, Steven T. Co- Author, and Austin A. Co-author
Affiliation
Complete Mailing Address
City, State, Zip Code, Tel: / Fax: / E-mail:

The body of the abstract should be a concise summary of your organization's use of RF sensing information and proposals for product requirements. The abstract should not exceed 500 words. Underline the name of the presenter of the paper, as shown above in author line.

FINAL PRESENTATIONS

The **final** version of the **briefing** should be received at LANL **no later than 15 July 2006**. Briefings received will be loaded on our laptop and burned to a CD for access during the conference. To expedite the publication of the proceedings, and for briefing purposes **all presenters must** provide an electronic copy via CD or e-mail. The preferred format for presentation graphics is Microsoft Power Point for PCs. We will send you an e-mail confirming receipt.

Note: If you will be bringing classified materials, please ensure you have proper courier documentation. Without it you will not be able to bring those materials into the building, nor will you be able to take any classified materials out of the building.

SECURITY CLEARANCES

The symposium will be held at the SECRET//NOFORN classification level. See classification form below. Be sure **all** data is filled in. Incomplete information will delay your registration and may prohibit your inclusion in the meeting. **Collateral clearances must be faxed to unclassified fax: 505-667-9194, Attn: Jenni Martinez or Holly Olivas.**
In addition you will need to fax the clearance information to Celine S. Apodaca at 505-665-8053 / 505-665-9145 (voice). Clearances must be received by **Monday, July 3, 2006.**

All RF Working group attendees plus those wishing to participate in impromptu SCI sidebars must also (in addition to faxing their collateral SECRET clearance forms) have their SCI clearances sent via message traffic from their SSO.

The message address is: **SSO DOE //LANL//** or by Classified Fax: 505-667-3925 or 505-665-5979.
Attn: Evelyn Sandoval, (505) 665-2072 (voice), POC: Dr. Steve Knox - Re: RF Sensing Symposium

NOTE: All administrative questions should be directed to Celine S. Apodaca, and for technical questions, Dr. Steve Knox or Dr. Phillip Jacobson.

Physical Security Information:

The SCC Conference room will be a controlled area. Conference room entry will require Los Alamos badging. Pre-registration and attendance at social event Monday evening will allow pre-badging and will speed entry into the symposium. The social event is at the Bradbury Science Museum, shown on the map below.

The following items are prohibited, including government owned:

NO **Cell Phones**
NO **Palm Pilots (and the like)**
NO **Laptops**
NO **Electronic Media**
NO **Recording devices**
NO **Cameras**
NO **Transmitting devices**
NO **Two-way pagers**

REGISTRATION

Please **fax your completed registration form** to Celine Apodaca ASAP (505-665-8053). **Payment must be made by check or money order (no credit cards).**

Please make check payable to: "**Los Alamos National Security"** for **$200.00**.

All funds received are for operational costs directly related to the RF Sensing Symposium. The symposium fee covers costs to include: badging, publishing, administrative costs, proceedings cds, etc.

Onsite registration will be allowed at the Monday night reception, and also at the symposium (Tues – Thurs).

LODGING

- 62 rooms are blocked for attendees at The Best Western Hilltop hotel, 400 Trinity Dr. at Central, at the government rate of $71.00 + tax. Check-in time is 2:00pm and check-out time is 12:00pm. Make your reservations ASAP by calling 505-662-2441. Be sure to tell the reservations clerk you are with the "RF Symposium". Web-site for the hotel is www.bwhilltop.com. ***Cut off date for reservations are July 10, 2006.***

- 20 rooms are blocked at The Holiday Inn Express, 2455 Trinity Dr. at $71.00 + tax. Make your reservations ASAP by calling 505-661-1110. Check-in time is 3:00pm and check-out time is 12:00pm. Be sure to tell the reservations clerk you are with the "RF Symposium". Web-site for the hotel is www.holiday-inn.com , then type in Los Alamos, NM for location. ***Cut off date for reservations are July 10, 2006.***

- 18 rooms are blocked at the Quality Inn, 2175 Trinity Drive, at the government rate of $68.00 + tax. Make your reservations ASAP by calling 505-662-7211. Check-in time is 3:00pm and check-out time is 12:00pm. Be sure to tell the reservations clerk you are with the "RF Symposium". Web-site for the hotel is www.gm.nm093@choicehotels.com, then type in Los Alamos, NM for location. ***No cut off date.***

Transportation to the Symposium will be provided each day (Tues-Thurs) from each of the hotels.

CONTACT INFORMATION

For further information, please contact:

Ms. Celine Apodaca, 505-665-9145, (U) capodaca@lanl.gov, (JWICS) loapocs@doe.ic.gov
Dr. Phillip Jacobson, 505-667-3052, (U) plj@lanl.gov, (JWICS) lojacpl@lanlitp.ic.gov
Dr. Stephen Knox, 505-667-2591, (U) sknox@lanl.gov, (JWICS) loknoso@doe.ic.gov

TRANSPORTATION

Travel to Los Alamos, NM is via Albuquerque International Airport. Maps can be found at http://www.lanl.gov/tools/maps/maps.shtml#detail. **The timeframe of this symposium is during peak tourist season. Please book air and especially rental car reservations as soon as possible.**

Cars can be rented at the airport location, and the drive time is typically 45-60 min to Santa Fe, and another 45 min to Los Alamos.

Transportation will be provided each day of the symposium from each hotel at the times listed below. Please utilize the offered transportation, as parking at LANL is greatly restricted. Pre-badging at the Monday night reception will allow you full access to the LANL area and direct access into the symposium. Without the badging you will be required to go to the LANL Badge Office, in the Otowi Bldg., prior to accessing the Symposium location. In addition, your parking choices will be limited due to restricted LANL access.

PLEASE PRE-REGISTER AND ATTEND THE MONDAY RECEPTION.

Bus Departures to the Symposium:

The Best Western Hilltop House Hotel - 7:00 a.m.
The Holiday Inn Express - 7:10 a.m.
Quality Inn – 7:20 a.m.

ADDITIONAL SOCIAL ACTIVITIES

Social activities are plentiful in the Northern New Mexico area, especially this time of year. The symposium agenda will leave evenings open for individuals or groups to take advantage of such opportunities. Some suggestions are:

Santa Fe Opera

- www.santafeopera.org
- Carmen, 1 AUG; Tempest, 2 AUG, and Cinderella, 3 AUG

Spanish Market (weekend before the Symposium)

- http://www.spanishmarket.org/
- Spanish Market features handcrafted traditional arts by 300 local Hispanic artists, continuous music, art demonstrations and regional foods. The oldest and largest exhibition and sale of Spanish colonial art forms in the United States, Spanish Market provides a unique opportunity for visitors to enjoy a taste of New Mexico's vibrant Spanish culture, both past and present.

Dining at:

- Rancho de Chimayo, http://www.ranchodechimayo.com/
- Gabriels, http://www.restauranteur.com/gabriels/

Outdoors:

- Valles Caldera National Preserve, http://www.vallescaldera.gov/ Hiking, wagon rides, elk herds, etc…
- Bandelier National Monument, http://www.vallescaldera.gov/ Hiking, ancestral Pueblo ruins
- Taos, Rio Grande Gorge, http://sangres.com/statenm/index.htm Hiking, rafting, dining, etc...

SECURITY CLEARANCE FORM

RF Sensing Symposium, 1-3, August 2006 – Los Alamos, NM

Dr. _____Ms. _____ Mr. _____ Mrs. _____Military Rank

Complete Name: _____
(Last) (First) (Middle)

Government Employee/ Contractor/ Other:_____

Government Contract Organization/Affiliation: _____

Soc. Sec. No.: _____Citizenship: _____

Place of Birth: _____ Date of Birth: _____

FACILITY INFORMATION (Where we would send attendee's classified notes/proceedings CD):

Classified Mailing Address: _____
(organization/division) (attn/mail code)

_____CAGE CODE:_____
(street address/ P.O. Box) (city, state, zip code)

Security Officer's Name/Title/Org: _____

Security Officer's Signature:*_____ Phone:_____Date: _____

DEADLINE: Fax Clearance form by **3 July, 2006.** ****U.S. Citizens only****
FAX COLLATERAL CLEARANCE TO: Jenni Martinez or Holly Olivas at FAX: 505-667-9194 / VOICE: 505-667-5587
If attendee holds SCI tickets, *in addition send this form to Evelyn Sandoval)* via message traffic to: SSO DOE//LANL//, or Classified Fax: 505-667-3925 or 505-665-5979.
FOR VISIT TO: Los Alamos National Laboratory, RF Sensing Symposium

REGISTRATION FORM

RF Sensing Symposium, 1-3, August 2006 – Los Alamos, NM

Symposium Fee $200.00. Make check payable to: "Los Alamos National Security" NO CREDIT CARDS. Complete, fax to Celine S. Apodaca (505)665-8053, ASAP. Mail check & original to: RF SENSING SYMPOSIUM, c/o Celine S. Apodaca, P.O. Box 1663, MS B224, Los Alamos, NM 87544

Dr. _____Ms. _____ Mr. _____ Mrs. _____Civ/ Military Rank

Complete Name: _____
As Appears On ID **(Last) (First) (Middle)**

Employer:_____

Company Name:_____

Government Organization/Affiliation:_____

Office Symbol: _____Position:_____

Complete Business Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Business Phone: ( ) _____

Alternate Phone: ( )_____Phone: ( )_____

Fax: ( ) _____Classified Fax: ( )_____

E-mail (Unclassified): _____

SIPRNET (Collateral Secret): _____

INTELINK/JWICS(SCI):_____

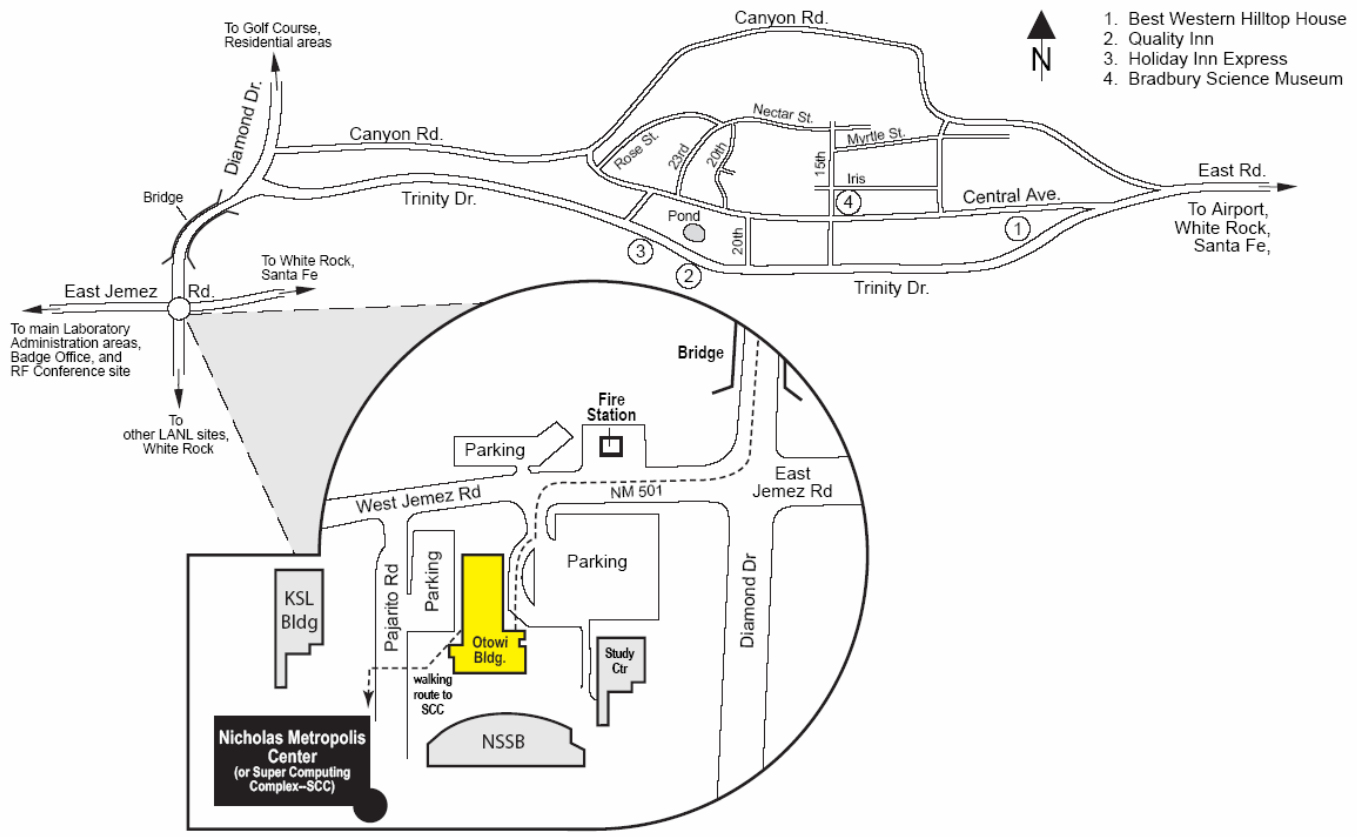
PLEASE ANNOTATE ANTICIPATED DAYS OF ATTENDANCE TO ASSIST IN PLANNING

Monday evening social: YES NO

Tuesday Symposium: YES NO

Wednesday Symposium: YES NO

Thursday Symposium: YES NO



- The Monday evening reception will be held at the Bradbury Science Museum (#4 on map)
- The symposium will be held at the Nicholas Metropolis Center.
- Transportation will be provided to the symposium from the three hotels shown on the map.
- To reach the symposium location, drive across the bridge on Diamond Drive. Turn right at the first stop light, West Jemez Road. Turn at the first left to reach the public-access parking area. Walk through or around the Otowi Building and down Pajarito Road to reach the controlled access point for entering the Nicholas Metropolis Center. At that control point, LANL escorts will be providing access to the symposium conference room.